CIRM RFA-07-01

APPLICATION # CL1- 00523-1

STAFF ANALYSIS

FEASIBILITY:

Project Scope: The project will demolish improvements in an existing laboratory and rebuild the space to provide for both a shared research laboratory and a stem cell techniques course. The new shared laboratory space consisting of (1) two hESC growth and propagation rooms, (2) a derivation/hESC growth and propagation room and (3) a gowning area with entry to each of the three laboratory rooms. The suite is adjacent to an existing 1,147 assignable square feet (asf) hESC research laboratory that would become accessible to shared laboratory users. The techniques course consists of primarily two conjoined spaces, a shared teaching laboratory and a discussion/interactive area. The laboratory renovation plan discussion restates much of the merits of the program described in Part 1. It does not include any detailed explanation of the work to be accomplished beyond demolition and rebuilding of the laboratory in a new configuration. The work is largely described as being complex and costly as the work will occur in a densely-populated, high-rise laboratory building constructed in the 1960s and located in an urban area. There is no indication of the condition of electrical, plumbing and HVAC infrastructure systems, though the costs associated with the project would lead one to conclude that these systems are wholly replaced. The proposal indicates that several other renovations of this type have occurred in the building in recent years, and therefore much is know of the likely cost and construction issues to be encountered in this project. There is a very detailed color-coded space layout plan provided that would be equivalent to architectural floor plans with all design issues resolved including circulation and equipment placement. Some design elements do not reflect the functionality needed for the intended use. For instance, a room that is 5 feet by 40 feet in dimension is noted as being part of the techniques course space.

The proposed improvements for the shared laboratory involve 698 gross square feet (gsf) that will provide 631 asf of usable space; the space associated with the techniques course consists of 613 gsf and 555 asf. The existing improved space to be used for the techniques course would be demolished as part of the shared laboratory budget. Thus, this space would be left as shell space should a techniques course not be approved at this institution. A rough take-off from the drawings confirmed the square footage of 1,186 asf provided in the proposal.

Project Management: The proposal identifies construction management processes that are in place at the institution with appropriate institutional management support.

COST:

The following analysis addresses the total proposed budget of $1,349,127 for the shared laboratory ($999,903) and the stem cell techniques course ($349,224). The overall cost has been allocated to the two grant elements with about 74 percent assigned to the shared laboratory and 26 percent to the techniques course.

There is no detailed cost estimate for the construction contract amount of $850,733. This amount consists of two categories of costs--asbestos abatement and "general construction." Additional costs for institutional-based construction and "special inspections" amounting to $88,888 are included as part of the construction amount. The special inspections ($46,400) would more accurately be classified as administrative costs rather than construction costs. The design fees, administrative costs and project contingency of $409,506 represents 44 percent of the construction amount which exceeds the RFA budget guidelines of 25 percent by $174,600. This amount, along with $46,400 for special inspections, results in $221,000 in unallowable cost that exceeds the RFA budget guideline. However, the identified matching funds exceed the minimum match by more than this amount.

The overall cost per asf for the shared laboratory and the stem cell techniques course is $1,138/asf. To convert this to a comparable figure for gross square feet (gsf) in a typical research-intensive building, one would assume an overall building efficiency of assignable-to-gross area of 60 percent. Thus, the 1,186 asf would equate to 1,976 gsf if one considers the full complement of building space (e.g. the gross building area including circulation and support) constructed to support the area to be renovated. Using this calculated gross area, the cost per gsf would amount to $682/gsf. This provides a more meaningful comparison to new laboratory building construction costs. We conclude that the average cost for new laboratory construction would be about $600/gsf, excluding land and site utilities. This amount would vary widely within California, but is being used here as an indicator of new construction value for comparative purposes. Based on this comparison, we conclude that the renovation work represents about 113 percent of the average cost of new laboratory space. General capital budget guidelines indicate that costs should not exceed about 65 percent of new construction in order to be considered a reasonably good investment to provide new hESC laboratory space. Based on these comparisons to averages, the proposal is higher in cost when compared to the average cost of new construction. If the un-allowed administrative and design costs of $221,000 were deleted from the grant budget, the comparative value for cost per gsf would be about $586/gsf.

The applicant indicates several reasons for the high cost due to local adverse conditions extant at this institution. While these local conditions will undoubted drive up costs, there is no discussion of what less-expensive alternatives were considered for this shared

facility including locating it in a more contemporary space, possibly leased space, or newly developed space at this institution.

The applicant indicates that the shared laboratory would be able to accommodate the NIH-free laboratory space needs for 28 Principal Investigators (PIs) at this institution. Considering just the cost for renovations associated with the shared laboratory space, the cost per PI is about $36,000. Based on CIRM funding only (construction and equipment) the cost per institutional-based PIs is $71,418.

TIMELINE:

The project schedule indicates that preliminary plans and working drawings will be completed in eight months with construction requiring six months to complete for a total duration of 14 months from the award date.

INSTITUTIONAL COMMITMENT:

There is no institutional funding being provided as part of the project. The applicant indicates that prior expenditures for hESC research related renovations amount to $1,078,000. This amount is cited as the institutional match for the shared laboratory and the Stem Cell Techniques Course and represents 80 percent of the requested CIRM funding. There is no indication that all of these investments occurred after January 2005. At the time of grant award, CIRM will confirm that adequate prior expenditures have been incurred to meet the minimum required 20 percent matching amount of $270,000.

The applicant has also committed to addressing any cost overrun issues.

HISTORICAL PERFORMANCE:

Data for three projects completed between July and November of 2006 and ranging in cost from $1.1 million to $4.9 million were provided as information for the historical performance. Actual costs for the three projects were precisely the same as the budgeted amount in all three cases, and project completion ranged from exactly on time to three weeks after scheduled completion. The number of change orders ranged from 3 to 8 for the three projects.

The applicant indicates that a total of three laboratory renovation projects were undertaken within the last two years with costs within the cited range of $1 million to $5 million. These projects had a value of $10 million.

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RESPONSIVENESS:

Shared Laboratory: The applicant indicates that there are 28 researchers based at the host institution that are planning to undertake hESC research activities once additional NIH-free space is available. Additional Principal Investigators (PIs) from other institutions are also expected to be users of the facility. We would note that some of these potential users may overlap with other shared laboratory grant requests from other institutions

Techniques Course: The applicant has requested funding under Part 1 for operation of a shared research laboratory and a techniques course. The Part 2 application indicates that 10 academic institutions have expressed their intent to participate in all techniques courses that would be held in the planned space.

Facilities Work Group Issues

- **Costs --** How will the Facilities Working Group address the $221,000 in unallowable costs related to excess fees and administrative costs? If matching funds are approved as submitted, there are sufficient matching funds from prior expenditures to cover the overage.
- **Costs --** How will the Facilities Working Group address the issue of the cost per square foot exceeding the amount that would be expected for new construction?

The grant management office will need to confirm that all conditions of the grant as indicated in the Grants Administration Policy have been met. This would include confirming that all past work is consistent with grant requirements for prevailing wage and other construction-related requirements. This includes confirmation that equipment funds are budgeted pursuant the Grants Administration Policy as adopted December 7, 2006.